

I. AMENDMENTS TO THE CLAIMS:

Please amend claims 1 and 11, cancel claims 4-5 and 7-10 without prejudice, and add new claims 12-13, as follows.

The following listing of claims replaces all prior listings, or versions, of claims in the above-captioned application.

LISTING OF CLAIMS:

1. (Currently Amended) A method for manufacturing a semiconductor device, comprising the steps of:

forming a first film, an oxidation preventive layer that prevents permeation of moisture into the element, on a concave and convex portion formed by an element on a semiconductor substrate;

forming a second film, an expansion layer that can be oxidized and expanded by a heat treatment in an oxidation atmosphere, on the oxidation preventive layer;

forming a third film, an insulating film that can be fluidized by the heat treatment in the oxidation atmosphere, on the expansion layer; and

exposing the semiconductor substrate, on which the oxidation preventive layer, the expansion layer and the insulating film have been formed, to the heat treatment in an oxidation atmosphere, in order to fluidize the insulating film and to oxidize and expand the expansion layer, thereby eliminating bubbles generated in the insulating film,

wherein the expansion layer is made of a silicide,

wherein the insulating film is a silicon oxide film containing at least one of phosphorus, arsenic, boron, fluorine and a halide, and

wherein the oxidation preventive layer is formed of a silicon nitride film.

2-5. (Cancelled).

6. (Original) The method for manufacturing semiconductor device according to claim 1, wherein a pressure of the oxidation atmosphere in the expansion step is atmospheric pressure or more, and a temperature of the heat treatment is 400°C to 800°C.

7-10. (Cancelled).

11. (Currently Amended) A method for manufacturing a semiconductor device, comprising the steps of:

forming a first film, an oxidation preventive layer that prevents permeation of moisture into the element, on a concave and convex portion formed by an element on a semiconductor substrate;

forming a second film, an expansion layer that can be oxidized and expanded by a heat treatment in an oxidation atmosphere, on the oxidation preventive layer;

forming a third film, an insulating film that can be fluidized by the heat treatment in the oxidation atmosphere, on the expansion layer; and

exposing the semiconductor substrate, on which the oxidation preventive layer, the expansion layer and the insulating film have been formed, to the heat treatment in an oxidation atmosphere, in order to fluidize the insulating film and to oxidize and expand the expansion layer, thereby eliminating bubbles generated in the insulating film,

wherein the expansion layer is made of aluminum, tantalum or an alloy of aluminum or tantalum,-

wherein the insulating film is a silicon oxide film containing at least one of phosphorus, arsenic, boron, fluorine and a halide, and

wherein the oxidation preventive layer is formed of a silicon nitride film.

12. (NEW) A method for manufacturing a semiconductor device, comprising the steps of:

forming a first film, an oxidation preventive layer that prevents permeation of moisture into the element, on a concave and convex portion formed by an element on a semiconductor substrate;

forming a second film, an expansion flow layer that can be oxidized, expanded and fluidized by a heat treatment in an oxidation atmosphere and that has an insulating property, on the oxidation preventive layer; and

exposing the semiconductor substrate, on which the oxidation preventive layer and the expansion flow layer have been formed, to the heat treatment in an oxidation atmosphere, in order to oxidize, expand and fluidize the expansion flow, thereby eliminating bubbles or open pores generated in the expansion flow layer,

wherein the expansion flow layer fills the concave and convex portion,

wherein the expansion flow layer is made of a polycrystalline silicon or an amorphous silicon containing at least one of boron, phosphorus and fluorine, and

wherein the oxidation preventive layer is formed of a silicon nitride film.

13. (NEW) The method for manufacturing semiconductor device according to claim 12, wherein a pressure of the oxidation atmosphere in the expansion step is atmospheric pressure or more, and a heat treatment temperature is 400°C to 800°C.